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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,368	12/09/2003	Lawrence E. Fink	7784-000670	4398
27572	7590	09/21/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			KIM, TAE JUN	
			ART UNIT	PAPER NUMBER
			3746	
DATE MAILED: 09/21/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

Office Action Summary	Application No. 10/731,368	Applicant(s) FINK, LAWRENCE E.	
	Examiner Ted Kim	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 3-5, 13, 14 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-12, 15-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/09/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 3-5, 13, 14, 24 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08/30/2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 6, 7, 10-12, 15, 16, 19-23, 26, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritchey et al (3,140,584). Ritchey et al teach jet engine for a mobile platform, the engine comprising: a nozzle rim (end of 36); a bendable duct 38 for communicating an exhaust flow generated by the engine to the nozzle rim; and a gimbal joint 34 pivotably coupling the nozzle rim to supporting structure to allow pivoting of the nozzle rim about a first axis and a second axis for changing a vector at which the exhaust flow is discharged from the nozzle rim; the gimbal joint comprises a gimbal ring pivotably coupled to supporting structure to allow pivoting of the gimbal ring 34 relative to the supporting structure, and pivotably coupled to the nozzle rim (end of 36) to allow pivoting of the nozzle rim relative to the gimbal ring; the first axis is generally

perpendicular to the second axis; an actuation system for controllably pivoting the nozzle rim; the bendable duct 38 is convoluted; at least one gimbal ring 34 pivotably coupled to supporting structure and to the nozzle rim to allow pivoting of the nozzle rim about a first axis and a second axis for changing a vector at which the exhaust flow is discharged from the nozzle rim; the method comprising: using the jet engine to generate an exhaust flow; communicating the exhaust flow through a bendable duct to a nozzle rim pivotably coupled to supporting structure with a two-axis gimbal joint 34; discharging the exhaust flow from the nozzle rim; and controllably pivoting the nozzle rim to change a vector at which the exhaust flow is discharged from the nozzle rim; the method comprising: pivotably coupling a nozzle rim to supporting structure with a two-axis gimbal joint; and coupling a bendable duct 38 to the nozzle rim and the engine for communicating an exhaust flow generated by the engine to the nozzle rim.

4. Claims 1, 2, 6, 7, 10-12, 15, 16, 19-23, 26, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Zeisloft (3,090,198). Zeisloft teaches a jet engine for a mobile platform, the engine comprising: a nozzle rim (end of 10); a bendable duct 88 for communicating an exhaust flow generated by the engine to the nozzle rim; and a gimbal joint 18 pivotably coupling the nozzle rim to supporting structure to allow pivoting of the nozzle rim about a first axis and a second axis for changing a vector at which the exhaust flow is discharged from the nozzle rim; the gimbal joint comprises a gimbal ring pivotably coupled to supporting structure to allow pivoting of the gimbal ring relative to the supporting structure, and pivotably coupled to the nozzle rim to allow pivoting of the

nozzle rim relative to the gimbal ring; the first axis is generally perpendicular to the second axis; an actuation system 102 for controllably pivoting the nozzle rim; the bendable duct is convoluted 88; at least one gimbal ring 18 pivotably coupled to supporting structure and to the nozzle rim to allow pivoting of the nozzle rim about a first axis and a second axis for changing a vector at which the exhaust flow is discharged from the nozzle rim; the method comprising: using the jet engine to generate an exhaust flow; communicating the exhaust flow through a bendable duct to a nozzle rim pivotably coupled to supporting structure 24 with a two-axis gimbal joint 18; discharging the exhaust flow from the nozzle rim; and controllably pivoting the nozzle rim to change a vector at which the exhaust flow is discharged from the nozzle rim; the method comprising: pivotably coupling a nozzle rim to supporting structure with a two-axis gimbal joint 18; and coupling a bendable duct 88 to the nozzle rim and the engine for communicating an exhaust flow generated by the engine to the nozzle rim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6, 7, 10, 11, 12, 15, 16, 19-23, 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crabill et al (3,270,505) in view of Martin (4,350,297).

Crabill et al teach a jet engine for a mobile platform, the engine comprising: a nozzle rim 30; a bendable duct 54 for communicating an exhaust flow generated by the engine to the nozzle rim; and supporting structure 44 to allow pivoting of the nozzle rim about a first axis and a second axis for changing a vector at which the exhaust flow is discharged from the nozzle rim; the bendable duct 54 is convoluted. Crabill et al do not teach the supporting structure 44 has a gimbal. Martin teaches it is old and well known in the art to employ a gimbal 30 connected to the supporting structure 33 to control the positioning of the nozzle. It would have been obvious to one of ordinary skill in the art to employ a gimbal ring to control the positioning of the nozzle to allow for precise alignment (col. 1, lines 29-30). It would have been obvious to one of ordinary skill in the art to employ a gimbal ring, as taught by Martin, in order to allow for precise alignment of the nozzle.

7. Claims 1, 2, 6-12, 15-23, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zeisloft (3,090,198) in view of Voigt (4,892,253). Zeisloft teaches various aspects of the claimed invention but do not teach the actuation system employs yokes with arms and gear teeth. Voigt teaches that (Fig. 1) that is old and well known in the art to employ an actuation system with yokes 22 and arms 22 and gear teeth for steering the nozzle, with advantages including being shorter, lighter, easier to fabricate and better adapted for greater maneuverability (col. 1, lines 67-col. 2, line 3). It would have been obvious to one of ordinary skill in the art to employ the actuation system of Voigt, in order to take advantage of the actuation system being shorter, lighter, easier to fabricate and better adapted for greater maneuverability.

Contact Information


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are

571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

		
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